


I Share Because I



When working aloft, the author and shipmates got nervous about the wave action, which caused their ship to bang the other subs alongside.

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How much do I care about electrical safety? Enough that this old repair LDO went to work in the field after retiring. I wanted to help young Sailors avoid the mistakes I made or witnessed during my 32-year Navy career. Here are some of those mistakes:

On my first submarine (a diesel, radar picket), I was using a screwdriver to remove the cover

from a dual-plug AC outlet. I planned to polish the cover. Suddenly, I slipped and rammed the tip of the screwdriver into the upper plug, causing some giant sparks. The screwdriver was ruined, but I escaped with just a good scare.

About a month later, I opened an access door on an unfamiliar radar power supply. I barely had cracked the door when it sounded like a high-

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powered rifle went off in my ears. During a memorable butt-chewing about 30 seconds later, I learned the result of my actions. A door-safety microswitch had actuated and dropped metallic shorting bars onto high-powered capacitors. In short, I single-handedly had shut down our most powerful radar.

Anytime shipmates or I worked aloft, on top of the sail, we taped pieces of paper on the antenna-hoist controls and equipment-power switches. We always hoped no one would violate this early form of tagout, and they never did.

Something else that made us a little nervous when working aloft was the wave action, which caused our ship to bang the ones alongside. Although we didn't cherish the idea of being knocked off our perch 25 to 30 feet above deck, with our chest over one antenna and our posterior over another, we didn't use any fall protection.

In fact, I never thought much about fall protection until the day I caught my high-school ring on an I-beam as I was swinging out of my upper bunk. Instead of dropping about a foot to the deck as usual, I was left hanging lopsided. I can't describe the pain I endured as I hung there, or how sick I felt afterward, while looking at the bone. I even wince every time I look at the scar yet today.

My most sobering experience came when a shipmate aboard a nuclear submarine was electro-

cuted in the early 1960s. Our ship was on the surface, in rolling seas. I was going forward when I opened a watertight door and instantly smelled a strangely sweet odor and somehow knew it was human flesh cooking. The flesh belonged to an IC electrician—a darn good shipmate—who had been working on an energized gyro-power supply with permission (not the CO's, though). He was sitting on metal-ventilation ducting when an open cabinet door unlatched in the heavy seas, shorting power from the door through his arm, heart and legs to the ducting. He was working alone, but people were on watch 10 feet away.

This shipmate's death marked the start of Sailors having to ask the CO's permission to work on energized equipment. Emphasis on tagout training also increased. I use this mishap in my control of energy (lockout-tagout) training yet today, and I always shed a few tears so the students know I'm telling a true story. My eyes even got a little watery as I prepared this story for you to use in *Fathom*. ☹

When asked what could have been done to prevent the incidents described in this article, EMC(MSS) Jose Mediavilla and EMCS(SW) Keith Churchman at the Naval Safety Center had these suggestions:

- *De-energize, tag out, and verify power is secured before working on electrical equipment.*
- *Let only qualified maintenance personnel do such work, and always get the CO's permission first. Follow the guidance in the NSTM¹ for exceptions to this policy.*
- *Check the references² for electrical safety.*



For More Info...

¹Chapter 300, Rev. 4, paragraph 300-2.5.1 describes authorized exceptions to the policy of getting the CO's approval before working on energized electrical equipment.

²Standard references for electrical safety include Operational Risk Management (OpNavInst 3500.39); NSTM, Chapter 300, Rev. 4, paragraph 300-2.5 through 2.5.2; NSTM, Chapter 400, Rev. 1, paragraph 400-3.1 through 3.2.5; Electronics Installation and Maintenance Handbook (EIMB 0967-LP-000-0100); NavOSH Program Manual for Forces Afloat (OpNavInst 5100.19C, Change 2, Chapters B7, C9 and D5; Standard Organization and Regulations of the U.S. Navy (OpNavInst 3120.32C, Change 3, Article 630.17); Engineering Department Organization and Regulations Manual (ComNavSurfLantInst/ComNavSurfPacInst 3540.22, Chapter 3, Section 3); and Joint Force Maintenance Manual (CinCLantFltInst/CinCPacFltInst 4790.3, Vol. 4, Chapter 23).